CALFED Interagency Fish Facilities Technical Team

June 16, 1998, 8:00 am to 5:00 pm

Flip Charts

Present:

Dan Odenweller, DFG (Chair)
Darryl Hayes, DWR
Paul Raquel, DFG
George Heise, DFG
Charles Liston, USBR
Ron Brockman, USBR
Michael Lee, USBR
Sergio Guillen, CALFED
Nichele Ng, DWR
Steve Roberts, DWR-ISDP
Dave Samson, CALFED
Mike Ford, DWR
Jim Spense, DWR
Steve Ford, DWR
Shawn Mayr, DWR
Ted Frink, DWR-ESO
Marcin Whitman, DFG
Ned Taft, Alden Research Labs
Ken Bates, DWR Consultant
Dennis Dorratcague, Montgomery Watson
Rick Wantuck, NMFS
Kevan Urquhart, DFG
Jane Arnold, DFG-Bay Delta
David Fullerton, CALFED
Bruce Herbold, EPA
Mike Fris, USFWS
Jeanne Schallberger, DWR
Ron Ott, CALFED

General Purpose of the meeting was to recommend for the proposed CALFED alternatives how to stage fish facilities in the south and north Delta and to minimize the risk in doing so.

1.
Q1

North end of CCF screens would take at least 2 years to permit, design, and start construction.

Is there years of research needed before we can proceed? NO

Need to look closely at hydraulic operating constraints on both Tracy and Banks if connected by intertie.

Would need barriers to continuously pump 10,000 to 15,000 cfs at north end of CCF.

**Need modeling studies of impacts on water stages even with barriers. (Could prove marginal)

2.

Not sure even with south Delta barriers that we can continuously pump 10,000 to 15,000 cfs in south Delta.

May need a strawman scenario (operations criteria, targets, etc)in the south Delta before we can answer staging question.

What would you do in design to minimize future risk (such as new species)? Flexibility

Handling fish can be a problem in scaling up to larger module.

Can we learn enough about flow management to scale 15,000 cfs? YES if facility is designed correctly.

3.

Need to enhance flexibility at Tracy and north end CCF.

**Do we need the "General Management Questions and Goals" in the June 28, 1997 team report team answered before we can proceed? It would make it easier, but we have to make our own assumptions and proceed.

If we assume that we have the water stages in the south Delta solved and the approach velocity is 0.2 fps, can we answer the staging question? In general yes.

Not ready to build major screen in the south Delta without research.

4.

Need information on:

- Fish Handling and shorting
- Approach velocity requirement. Species have not interacted with velocity criteria, lifting, sorting, etc.
- Debris management

Should we build the research facility at the north end CCF, Tracy or both?

5.

FIRST STAGE

Should we build a prototype (production) with research orientation (south Delta stages)

Facility should be Modifiable for

- velocities
- bypass
- screen
  -material
  -orientation (angle, bars, porosity)
  -trash racks

Facility should be adaptive for

- cleaning
- transport
- new organisms
- sorting
- Predator interaction with the facility

6.

HOW BIG?

Factors to consider:

- Never been built before (political factor)
- Need to supply a large amount of screened water to the projects.
- Need to minimize the number of bypasses
- Need to increase water supply reliability
- Need to remove predation effects of CCF
- Need to fully screen Tracy
- How fast can we get it built

7.

SIZE?

Could use full "V" or ½ "V". Should be designed to test both.

**First stage research facility should be 1,500 to 3,000 cfs module. Can say that we can sequentially add models of this size as standard technology. i.e. Answers the question have we done this before? YES

ONE or TWO LOCATIONS?

8.

Advantages of going each way.

Joint Salvage Facility
- Economy of scale
  - -Capital
  - -Operations
- All water goes through CCF reducing predation.
- Research done at one joint facility
- Little or no potential stranded cost (capital and O&M)
-

Separate Facilities
- Flexibility
- Redundancy of system
- USBR has been mandated to fix their screens
- USBR can start immediately and have constricted by 2000

9.

The first screen at the north end of CCF should be a 3,000 to 7,000 cfs facility.

Could begin design in 1999. Would take two to three years for design, permitting and construction.

**Would be designed as a production facility with some research capabilities.

May have high risk without some research on:
- Debris management
- Handling
- bypass

10.

NORTH DELTA

Alternative 2

Can we provide upstream passage around screens and pumps in alternative 2? YES
- Salmon - ladder
- Delta Smelt - locks
- Striped Bass - locks
- Sturgeon - locks
- American Shad - ladder

What is the risk?

- Could stage size of ladder and buckets for locks as you stage amount of diversion.
- May want to do total passage facilities on any size of diversion.
- May need an bay at exit to ladder

11.

*Do we know how many salmon and other species pass thru the DCC when its open? If not, should do research now to try to get some numbers.

Need to look at historical on RedBluff ladders. Has species specific data on what has passed thru.

If we build any size diversion at Hood for alternative 2 need an upstream passage facility.

Because of varying river stages will have to sluice the fish over the levee back into the River.

Do we expect more migrants in Alternative 2 than present?

12.

Flooding of McCormack Williamson Track in alternative 2 may cause delays in upstream fish migration.

First stage in the north Delta should be a 1,500 to 3,000 cfs module (around 2,000 cfs) at hood with a discharge to the North Fork Mokelumne River. A module of this size would allow us to say we are using standard technology when we expand diversion.

Need to look at normal conveyance capacity of the North Fork of the Mokelumne.

The focus of the production type research facility at Hood would be to test the following:

- The bypass system to the Sacramento River. (Pumps, outlets location and types etc.)
- The screen cleaning and debris management systems
- Upstream passage facilities

* Need to analyze the pool in front of the screens for predation problems.

13.

There is no problem designing a facility that allows for criteria for various species and periods. Such as a .2 and .4 approach velocity.

The staging considerations for alternative 3 are similar to Alternative 2, only simpler.

In alternative 3 may need radial gates downstream of the screens since the pumps may be moved to the downstream end of the canal.

**The risk is much higher in designing effective screens in the south Delta than the north Delta.

Moving the intake to upstream to Freeport would encounter the same problems as Hood.

(Ron have notes out by the end of next week.)